Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the above-identified application.

Listing of Claims

1. – 3. (Cancelled)

4. (Currently Amended) ~~The method of claim 3,~~ A method for converting interlaced video fields into progressive video fields, said method comprising:

computing static, motion, and texture components for all pixels of a sub-partition of an interlaced field;

determining portions of the static, motion, and texture components that contribute to a pixel of a progressive field;

wherein the portions of the computed static, motion, and texture components that contribute to the pixel of the progressive field is determined using a perceptual model;

adjusting one or more of the static, motion, and texture components;

summing the adjusted one or more static, motion, and texture components;

receiving a past interlaced field and a future interlaced field, wherein the interlaced field is received after the past interlaced field but before the future interlaced field;

where adjustment of the static image component comprises an act of reducing said static image component by a modulation factor *Ra*, where said modulation factor is computed by scaling an *aed* factor by *BAI*, wherein said *aed* factor is derived by computing an average energy of a difference between a block in the future interlaced field and a prediction of a corresponding block in the past interlaced field, and further, said *BAI* is obtained by computing an image difficulty of a block in the field.

5. (Previously Presented) The method of claim 4, where the modulation factor *Ra is* further modulated to create a second modulation factor *RSa,* said *RSa* is comprised of scaling an *aeds* factor by *SVAI,* said *aeds* factor is derived by computing an average energy of a difference between a sub-block of the block in the future field and a prediction of the a sub-block of the corresponding block in the past field, and further, said *SVAI is* obtained by computing an average vertical image difficulty of the said sub-block in the future field and a third sub-block in the past field, the third sub-block in the past field having coordinates equal to coordinates of said sub-block in the future field.

6. (Previously Presented) The method of claim 5 where the block and sub-block predictions use the same motion information.

7. (Previously Presented) The method of claim 4, where the static image component is modulated by a factor *Rm,* wherein *Rm* is calculated by scaling the *aed* factor of by *aed0* where said *aed0 is* derived by computing the average energy of the difference between the block in future field and the corresponding block in the past field, said corresponding block in the past field having the same coordinates as the said block in future field.

8.–14. (Cancelled)

15. (Previously Presented) The method of claim 4, when the nominal values of *Ra* and *aed* are large, only contributions from the texture image component and the motion image component are used.

16. (Previously Presented) The method of claim 15, when a small amount of motion for a block of samples is detected, said block has a dominant texture image component.

17.–33. (Cancelled)

34. (Previously Presented) A method for converting video data from interlaced format to progressive format, comprising:

determining a probability of a first image component of a field, wherein the determination assigns a priority to the first image component; and

determining a probability of a second image component of the field, where the determination assigns a priority to the second image component;

receiving first and second fields, wherein the field is received before the second field but after the first field;

partitioning the first field to produce a first block of samples;

partitioning a the second field to produce a second block of samples;

determining a first image component for the first block of samples;

determining a second image component based on the second block of samples;

modulating the first image component based on an average energy (*"aed"*) of a difference between the second block and a prediction of the first block in the first field scaled by an image difficulty of a block *("BAI")* in the field.

35. – 37 (Cancelled)

38. (Previously Presented) The method of claim 34, further comprising:

computing an average energy of the differences between a sub-block in the second field and a prediction of a corresponding sub-block in the first field;

computing an average vertical image difficulty of the sub-block in the second field and the corresponding sub-block in first field, the sub-block in first field having the same coordinates as the sub-block in second field;

modulating the first image component based on the average energy; and

modulating the first image component based on the average vertical image difficulty.

39. (Cancelled)

40. (Previously Presented) The method of claim 34, further including:

computing an average energy (*"aed0"*) of a difference between a block in the second field and a corresponding block in the first field, the block in the second field having a first set of coordinates, the corresponding block in the first field having a second set of coordinates, wherein the first set of coordinates and the second set of coordinates are substantially equal; and

modulating the first image component based on the average energy of the difference between the block in the second field and the corresponding block in the first field.

41. (Previously Presented) The method as recited in claim 34, further including:

modulating the second image component based on an average energy (*"aed"*) of a difference between a block in the second field and a prediction of the corresponding block in the first field scaled by an image difficulty of a block *("BAI")* in the field.

42. – 69. (Cancelled)